The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of manufacturing a semiconductor device, comprising:

forming a crystalline semiconductor layer by heating an amorphous semiconductor layer over a substrate that has an insulating surface;

introducing an impurity of one conductivity type into an upper surface of the crystalline semiconductor layer;

irradiating the crystalline semiconductor layer with laser light to redistribute the impurity;

removing [[a]] said upper surface portion of the crystalline semiconductor layer, after the irradiation step; and

forming a channel portion of an insulated gate field effect transistor from a remaining portion of the crystalline semiconductor layer,

wherein the remaining portion comprises the impurity~~, and~~

~~wherein the remaining portion at least partly overlaps the surface portion before removing~~.

2. (Withdrawn) A method of manufacturing a semiconductor device, comprising:

forming an amorphous semiconductor layer on a substrate that has an insulating surface, an impurity region that contains an impurity of one conductivity type;

irradiating the amorphous semiconductor layer with laser light to melt and crystallize the amorphous semiconductor layer and distribution of the one conductivity type impurity;

removing a high concentration impurity region where the one conductivity type impurity is segregated on a surface portion of the crystalline semiconductor layer, thereby leaving a portion of the crystalline semiconductor layer; and

forming a channel portion of an insulated gate field effect transistor from the remaining portion of the crystalline semiconductor layer.

3. (Currently Amended) A method of manufacturing a semiconductor device, comprising:

forming a crystalline semiconductor layer by heating an amorphous semiconductor layer over a substrate that has an insulating surface after adding a metal element for accelerating crystallization thereto;

introducing an impurity of one conductivity type into an upper surface of the crystalline semiconductor layer;

irradiating the crystalline semiconductor layer with laser light to redistribute the impurity;

removing [[a]] said upper surface portion of the crystalline semiconductor layer, after the irradiation step; and

forming a channel portion of an insulated gate field effect transistor from a remaining portion of the crystalline semiconductor layer,

wherein the remaining portion comprises the impurity,~~ and~~

~~wherein the remaining portion at least partly overlaps the surface portion before removing~~.

4. (Withdrawn) A method of manufacturing a semiconductor device, comprising:

forming a crystalline semiconductor layer by irradiating an amorphous semiconductor layer on a substrate that has an insulating surface with a pulse laser light to partially or entirely crystallize the amorphous semiconductor layer;

introducing an impurity of one conductivity type into the crystalline semiconductor layer;

irradiating the crystalline semiconductor layer with laser light to melt and re-crystallize the crystalline semiconductor layer for re-distribution of the one conductivity type impurity;

removing a high concentration impurity region where the one conductivity type impurity is segregated on a surface portion of the crystalline semiconductor layer, thereby leaving a portion of the crystalline semiconductor layer; and

forming a channel portion of an insulated gate field effect transistor from the remaining portion of the crystalline semiconductor layer.

5. (Original) A method of manufacturing a semiconductor device according to claim 1, wherein a source of the laser light is one selected from a continuous wave YAG laser, YVO_4 laser, YLF laser, and $YAlO_3$ laser.

6. (Withdrawn) A method of manufacturing a semiconductor device according to claim 2, wherein a source of the laser light is one selected from a continuous wave YAG laser, YVO_4 laser, YLF laser, and $YAlO_3$ laser.

7. (Original) A method of manufacturing a semiconductor device according to claim 3, wherein a source of the laser light is one selected from a continuous wave YAG laser, YVO_4 laser, YLF laser, and $YAlO_3$ laser.

8. (Withdrawn) A method of manufacturing a semiconductor device according to claim 4, wherein a source of the laser light is one selected from a continuous wave YAG laser, YVO_4 laser, YLF laser, and $YAlO_3$ laser.

9. (Previously Presented) A method of manufacturing a semiconductor device according to claim 1, wherein 40 nm or more of the thickness of the surface portion is removed.

10. (Withdrawn) A method of manufacturing a semiconductor device according to claim 2, wherein 40 nm or more of the thickness of the high concentration impurity region where the one conductivity type impurity is segregated on the front side of the crystalline semiconductor layer is removed.

11. (Previously Presented) A method of manufacturing a semiconductor device according to claim 3, wherein 40 nm or more of the thickness of the surface portion is removed.

12. (Withdrawn) A method of manufacturing a semiconductor device according to claim 4, wherein 40 nm or more of the thickness of the high concentration impurity region where the one conductivity type impurity is segregated on the front side of the crystalline semiconductor layer is removed.

13. (Currently Amended) A method of manufacturing a semiconductor device, comprising:

forming an amorphous semiconductor layer having a thickness of 60 nm or more;

crystallizing the amorphous semiconductor layer to obtain a crystalline semiconductor layer;

introducing an impurity element into <u>an upper surface of</u> the crystalline semiconductor layer by accelerating the impurity element with the acceleration voltage 30 kV or less;

irradiating the crystalline semiconductor layer with laser light whereby the impurity element is redistributed; and

removing [[a]] said upper surface portion of the crystalline semiconductor layer, after the irradiating step,

wherein a remaining portion of the crystalline semiconductor layer after the removing comprises the impurity element~~, and~~

~~wherein the remaining portion at least partly overlaps the surface portion before removing~~.

/ 14. (Previously Presented) A method of manufacturing a semiconductor device according to claim 13, wherein a method for crystallizing the amorphous semiconductor layer is selected from one of furnace annealing, radiant heat method, gas heat method and rapid thermal annealing.

/ 15. (Original) A method of manufacturing a semiconductor device according to claim 13, wherein a source of the laser light is one selected from a continuous wave YAG laser, YVO_4 laser, YLF laser, and $YAlO_3$ laser.

/ 16. (Original) A method of manufacturing a semiconductor device according to claim 13, wherein a thickness of the surface portion of the crystalline semiconductor layer removed is 10 nm to 50nm.

/ 17. (Original) A method of manufacturing a semiconductor device according to claim 13, further comprising: patterning the crystalline semiconductor layer to form an island shape.

/ 18. (Original) A method of manufacturing a semiconductor device according to claim 13, wherein a concentration of the impurity element in the crystalline semiconductor layer is 1×10^{15} to 5×10^{18} /cm^3 and in the range of the concentration being ± 10% for an average.

19. (Currently Amended) A method of manufacturing a semiconductor device, comprising:

forming an amorphous semiconductor layer having a thickness of 60 nm or more;

introducing an impurity element into an upper surface of the amorphous semiconductor layer by accelerating the impurity element with the acceleration voltage 30 kV or less;

irradiating the amorphous semiconductor layer with laser light whereby the impurity element is redistributed;

removing [[a]] said upper surface portion of the crystalline semiconductor layer,

wherein a remaining portion of the crystalline semiconductor layer after the removing comprises the impurity element~~, and~~

~~wherein the remaining portion at least partly overlaps the surface portion before removing~~.

20. (Original) A method of manufacturing a semiconductor device according to claim 19, wherein a source of the laser light is one selected from a continuous wave YAG laser, YVO_4 laser, YLF laser, and $YAlO_3$ laser.

21. (Original) A method of manufacturing a semiconductor device according to claim 19, wherein a thickness of the surface portion of the crystalline semiconductor layer removed is 10 nm to 50nm.

22. (Original) A method of manufacturing a semiconductor device according to claim 19, further comprising: patterning the crystalline semiconductor layer to form an island shape.

23. (Original) A method of manufacturing a semiconductor device according to claim 19, wherein a concentration of the impurity element in the crystalline semiconductor layer is 1×10^{15} to 5×10^{18} /cm^3 and in the range of the concentration being ± 10% for an average.

24. (Original) A method of manufacturing a semiconductor device according to claim 1, wherein a concentration of the impurity element in the crystalline semiconductor layer is 1×10^{15} to 5×10^{18} /cm^3 and in the range of the concentration being ± 10% for an average.

25. (Withdrawn) A method of manufacturing a semiconductor device according to claim 2, wherein a concentration of the impurity element in the crystalline semiconductor layer is 1×10^{15} to 5×10^{18} /cm^3 and in the range of the concentration being ± 10% for an average.

26. (Original) A method of manufacturing a semiconductor device according to claim 3, wherein a concentration of the impurity element in the crystalline semiconductor layer is 1×10^{15} to 5×10^{18} /cm^3 and in the range of the concentration being ± 10% for an average.

27. (Withdrawn) A method of manufacturing a semiconductor device according to claim 4, wherein a concentration of the impurity element in the crystalline semiconductor layer is 1×10^{15} to 5×10^{18} /cm^3 and in the range of the concentration being ± 10% for an average.

28. (Currently Amended) A method of manufacturing a semiconductor device, comprising:

forming an amorphous semiconductor layer over a substrate that has an insulating surface;

crystallizing the amorphous semiconductor layer by heat to obtain a crystalline semiconductor layer;

introducing an impurity element into an upper surface of the amorphous semiconductor layer by accelerating the impurity element with the acceleration voltage 30 kV or less;

irradiating the crystalline semiconductor layer with laser light whereby the impurity element is redistributed;

removing [[a]] said upper surface portion of the crystalline semiconductor layer, after the irradiating step,

wherein a remaining portion of the crystalline semiconductor layer after the removing comprises the impurity element~~, and~~

~~wherein the remaining portion at least partly overlaps the surface portion before removing~~.

29. (Currently Amended) A method of manufacturing a semiconductor device, comprising:

forming an amorphous semiconductor layer over a substrate that has an insulating surface;

adding a metal element for accelerating crystallization to the amorphous semiconductor layer;

crystallizing the amorphous semiconductor layer by heat to obtain a crystalline semiconductor layer;

introducing an impurity element into an upper surface of the crystalline semiconductor layer by accelerating the impurity element with the acceleration voltage 30 kV or less;

irradiating the crystalline semiconductor layer with laser light whereby the impurity element is redistributed;

removing [[a]] said upper surface portion of the crystalline semiconductor layer, after the irradiating step,

wherein a remaining portion of the crystalline semiconductor layer after the removing comprises the impurity element~~, and~~

~~wherein the remaining portion at least partly overlaps the surface portion before removing~~.

/ 30. (Previously Presented) A method of manufacturing a semiconductor device according to claim 28, wherein a source of the laser light is one selected from a continuous wave YAG laser, YVO_4 laser, YLF laser, and $YAlO_3$ laser.

/ 31. (Previously Presented) A method of manufacturing a semiconductor device according to claim 28, wherein a thickness of the surface portion of the crystalline semiconductor layer removed is 10 nm to 50nm.

/ 32. (Previously Presented) A method of manufacturing a semiconductor device according to claim 28, further comprising: patterning the crystalline semiconductor layer to form an island shape.

/ 33. (Previously Presented) A method of manufacturing a semiconductor device according to claim 28, wherein a concentration of the impurity element in the crystalline semiconductor layer is 1×10^{15} to 5×10^{18} /cm^3 and in the range of the concentration being $\pm$ 10% for an average.

34. (Previously Presented) A method of manufacturing a semiconductor device according to claim 29, wherein a source of the laser light is one selected from a continuous wave YAG laser, YVO_4 laser, YLF laser, and $YAlO_3$ laser.

35. (Previously Presented) A method of manufacturing a semiconductor device according to claim 29, wherein a thickness of the surface portion of the crystalline semiconductor layer removed is 10 nm to 50nm.

36. (Previously Presented) A method of manufacturing a semiconductor device according to claim 29, further comprising: patterning the crystalline semiconductor layer to form an island shape.

37. (Previously Presented) A method of manufacturing a semiconductor device according to claim 29, wherein a concentration of the impurity element in the crystalline semiconductor layer is 1×10^{15} to 5×10^{18} /cm^3 and in the range of the concentration being ± 10% for an average.

38. (Previously Presented) A method of manufacturing a semiconductor device according to claim 1, wherein the impurity comprises boron.

39. (Previously Presented) A method of manufacturing a semiconductor device according to claim 3, wherein the impurity comprises boron.

40. (Previously Presented) A method of manufacturing a semiconductor device according to claim 13, wherein the impurity element comprises boron.

41. (Previously Presented) A method of manufacturing a semiconductor device according to claim 19, wherein the impurity element comprises boron.

42. (Previously Presented) A method of manufacturing a semiconductor device according to claim 28, wherein the impurity element comprises boron.

43. (Previously Presented) A method of manufacturing a semiconductor device according to claim 29, wherein the impurity element comprises boron.

44. (Currently Amended) A method of manufacturing a semiconductor device, comprising:

forming a crystalline semiconductor layer by heating an amorphous semiconductor layer over a substrate that has an insulating surface;

introducing an impurity of one conductivity type into an upper surface of the crystalline semiconductor layer;

irradiating the crystalline semiconductor layer with laser light to redistribute the impurity;

removing [[a]] said upper surface portion of the crystalline semiconductor layer, after the irradiation step;

forming a semiconductor island by etching a remaining portion of the crystalline semiconductor layer; and

forming a channel portion of an insulated gate field effect transistor from the semiconductor island,

wherein the remaining portion comprises the impurity.

45. (Previously Presented) A method of manufacturing a semiconductor device according to claim 44, wherein a source of the laser light is one selected from a continuous wave YAG laser, YVO_4 laser, YLF laser, and $YAlO_3$ laser.

46. (Previously Presented) A method of manufacturing a semiconductor device according to claim 44, wherein 40 nm or more of the thickness of the surface portion is removed.

47. (Previously Presented) A method of manufacturing a semiconductor device according to claim 44, wherein a concentration of the impurity element in the crystalline semiconductor layer is 1×10^{15} to 5×10^{18} /cm^3 and in the range of the concentration being $\pm$ 10% for an average.

48. (Previously Presented) A method of manufacturing a semiconductor device according to claim 44, wherein the impurity comprises boron.